

WHAT IS CLAIMED IS:

- 1 1. A process for quantitating a human DNA in a sample, said process comprising the
2 steps of:

3 providing a sample to be analyzed;

4 amplifying predetermined genomic DNA containing an *Alu* element by using primers,
5 said *Alu* element being present only in the human genome; and

6 quantitating the human DNA by comparing the amplified DNA with a reference.
- 1 2. The process of claim 1, wherein the amplification step comprises inter-*Alu* polymerase
2 chain reaction amplification.
- 1 3. The process of claim 2, wherein the amplification step comprises a polymerase chain
2 reaction with the primers containing the following sequences:

3 5' GATCGCGCCACTGCACTCC 3' (SEQ ID NO: 1)
4 and
5 5' GGATTACAGGCGTGAGCCAC 3' (SEQ ID NO: 2).
- 1 4. The process of claim 1, wherein the amplification step comprises intra-*Alu* polymerase
2 chain reaction amplification.

1 5. The process of claim 4, wherein the amplification is a polymerase chain reaction with
2 the primers containing the following sequences:

3 5' CGAGGCGGGTGGATCATGAGGT 3'(SEQ ID NO: 3)

4 and

5 5' TCTGTCGCCAGGCCGGACT 3' (SEQ ID NO: 4).

1 6. The process of claim 4, wherein the amplification is a polymerase chain reaction with
2 the primers containing the following sequences:

3 5' GAGATCGAGACCACGGTGAAA 3' (SEQ ID NO: 5)

4 and

5 5' TTTGAGACGGAGTCTCGTT 3' (SEQ ID NO: 6).

1 7. The process of claim 1, wherein the quantitation step comprises the step of detecting
2 the human DNA on an agarose gel stained with ethidium bromide.

1 8. The process of claim 1, wherein the quantitation step comprises the step of detecting
2 the human DNA by using a qPCR system.

1 9. The process of claim 1, wherein the quantitation step comprises the step of detecting
2 the human DNA by using *TaqMan* chemistry.

1 10. A pair of primers adapted for quantitating a human DNA in a sample, said pair of
2 primers comprising:

3 5' GATCGCGCCACTGCACTCC 3' (SEQ ID NO: 1); and

4 5' GGATTACAGGCGTGAGCCAC 3' (SEQ ID NO: 2).

1 11. A pair of primers adapted for quantitating a human DNA in a sample, said pair of
2 primers comprising:

3 5' CGAGGCGGGTGGATCATGAGGT 3' (SEQ ID NO: 3); and

4 5' TCTGTCGCCAGGCCGGACT 3' (SEQ ID NO: 4).

1 12. A pair of primers adapted for quantitating a human DNA in a sample, said pair of
2 primers comprising:

3 5' GAGATCGAGACCACGGTGAAA 3' (SEQ ID NO: 5); and

4 5' TTTGAGACGGAGTCTCGTT 3' (SEQ ID NO: 6).

1 13. A kit for quantitation of a human DNA in a sample, comprising:

2 a polymerase;

3 a pair of primers designed within the core body of a predetermined *Alu* element to
4 amplify multiple copies of the *Alu* element derived from locations dispersed throughout the
5 human genome, wherein the predetermined *Alu* sequences are present only in the human genome;

6 buffers for a polymerase chain reaction; and
7 a reference for comparing the amplified multiple copies of the *Alu* element to quantitate
8 the human DNA.

1 14. The kit of claim 13, wherein said pair of primers comprises:

2 5'GATCGCGCCACTGCACTCC 3' (SEQ ID NO: 1); and

3 5' GGATTACAGGCGTGAGCCAC 3' (SEQ ID NO: 2).

1 15. The kit of claim 13, wherein said pair of primers comprises:

2 5' CGAGGCGGGTGGATCATGAGGT 3' (SEQ ID NO: 3); and

3 5' TCTGTCGCCAGGCCGGACT 3' (SEQ ID NO: 4).

1 16. The kit of claim 13, wherein said pair of primers comprises:

2 5' GAGATCGAGACCACGGTGAAA 3' (SEQ ID NO: 5); and

3 5' TTTGAGACGGAGTCTCGTT 3' (SEQ ID NO: 6).

1 17. The kit of claim 13, further comprising:

2 reagents for extracting and isolating DNA from the sample.

1 18. The kit of claim 13, further comprising:

2 reagents for detecting the human DNA on an agarose gel stained with ethidium bromide.

1 19. The kit of claim 13, further comprising:
2 fluorescent dye.

1 20. The kit of claim 13, further comprising:
2 SYBR green PCR core agents.